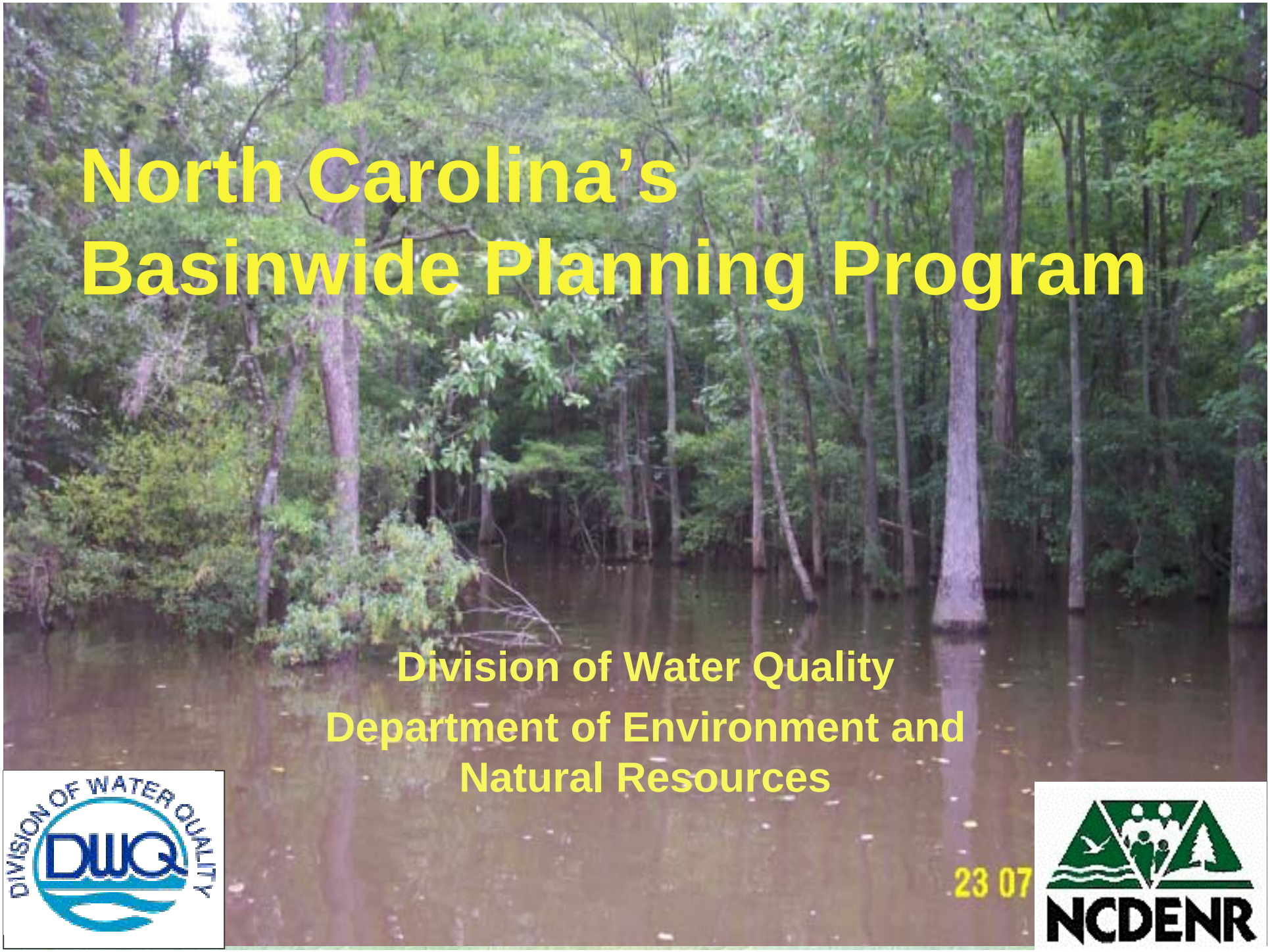


North Carolina's Basinwide Planning Program

Division of Water Quality

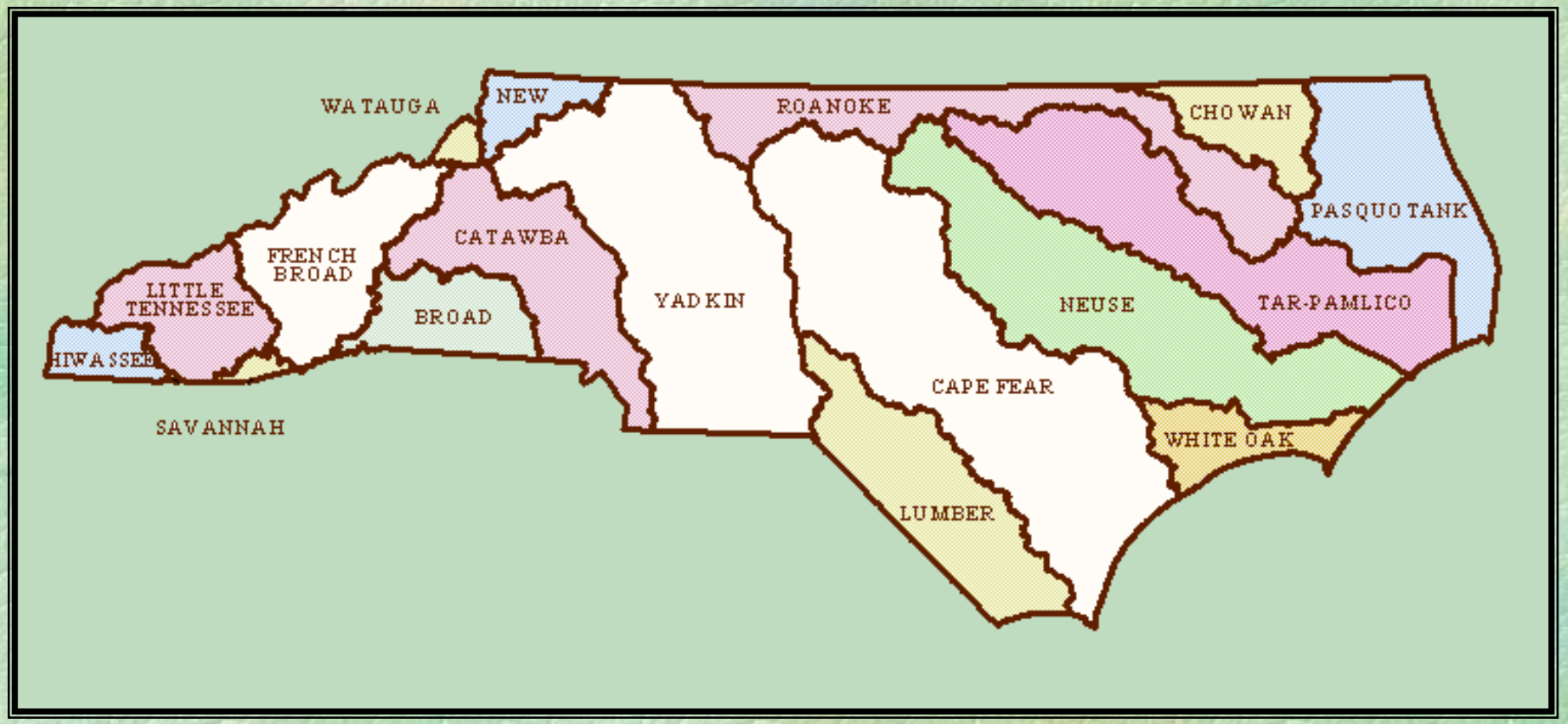
Department of Environment and Natural Resources

Presentation Overview

- Basinwide Planning Program
- Basinwide Water Quality Plans
- Surface Water Quality Classifications
- Use Support Assessment
- APNEP Area & Water Quality

Basinwide Planning Program

Applies to All 17 River Basins



Basinwide Planning Goals

- Identify water quality problems and restore impaired waters.
- Identify and protect high value resource waters.
- Protect unimpaired waters and support responsible economic growth.

Basinwide Planning Objectives

- Work with other agencies to develop appropriate management strategies.
- Assure equitable distribution of waste assimilative capacity.
- Better evaluate cumulative effects of pollution.
- Improve public awareness and involvement.

Basinwide Planning Benefits

- Fosters public participation
- Focuses resources
- Fosters comprehensive NPDES permitting
- Uses sound ecological planning
- Integrates and coordinates programs and agencies.

Basinwide Plans Contain:

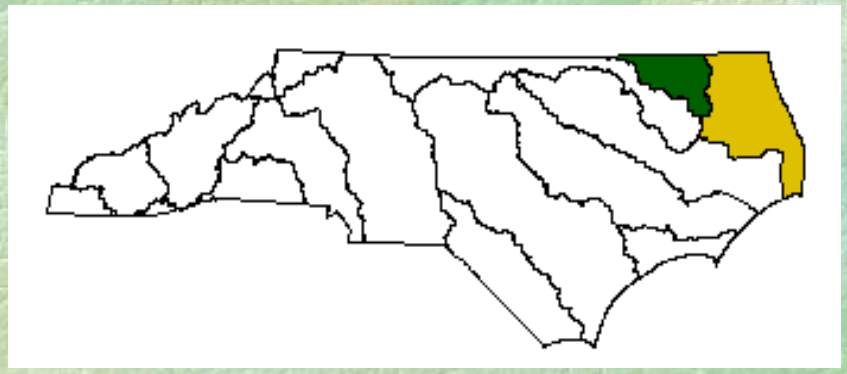
- Specific management strategies for point sources
- General recommendations for nonpoint sources
- Collaboration by nonpoint source agencies, voluntary initiatives, local governments and other citizens
- Guidance for obtaining funds for projects

Roanoke & White Oak River Basins
Schedule

- Current Roanoke and White Oak River Basinwide Water Quality Plans - 2001
- DWQ collected biological data – summer 2004
- Use Support development *(draft)* - 2005
- Revision to Plans - 2006

Chowan & Pasquotank River Basins
Schedule

- Current Basinwide Water Quality Plans - 2002
- Revision to Plans 2007
- DWQ to collect biological data – summer 2005
- Implementation & Coordination



Neuse & Tar-Pamlico River Basins
Schedule

- Current Neuse Basinwide Water Quality Plan – 2002.
- Biological Data collection – 2005
- Revision - 2007

- Current Tar-Pam Basinwide Water Quality Plan – 2004
- Biological Data Collection – 2007
- Revision - 2009

Water Quality Classifications

Primary Classifications

Fresh Water- C, B, WS I-V

Salt Water- SC, SB, SA

Supplemental Classifications

NSW - Nutrient Sensitive Waters

HQW - High Quality Waters

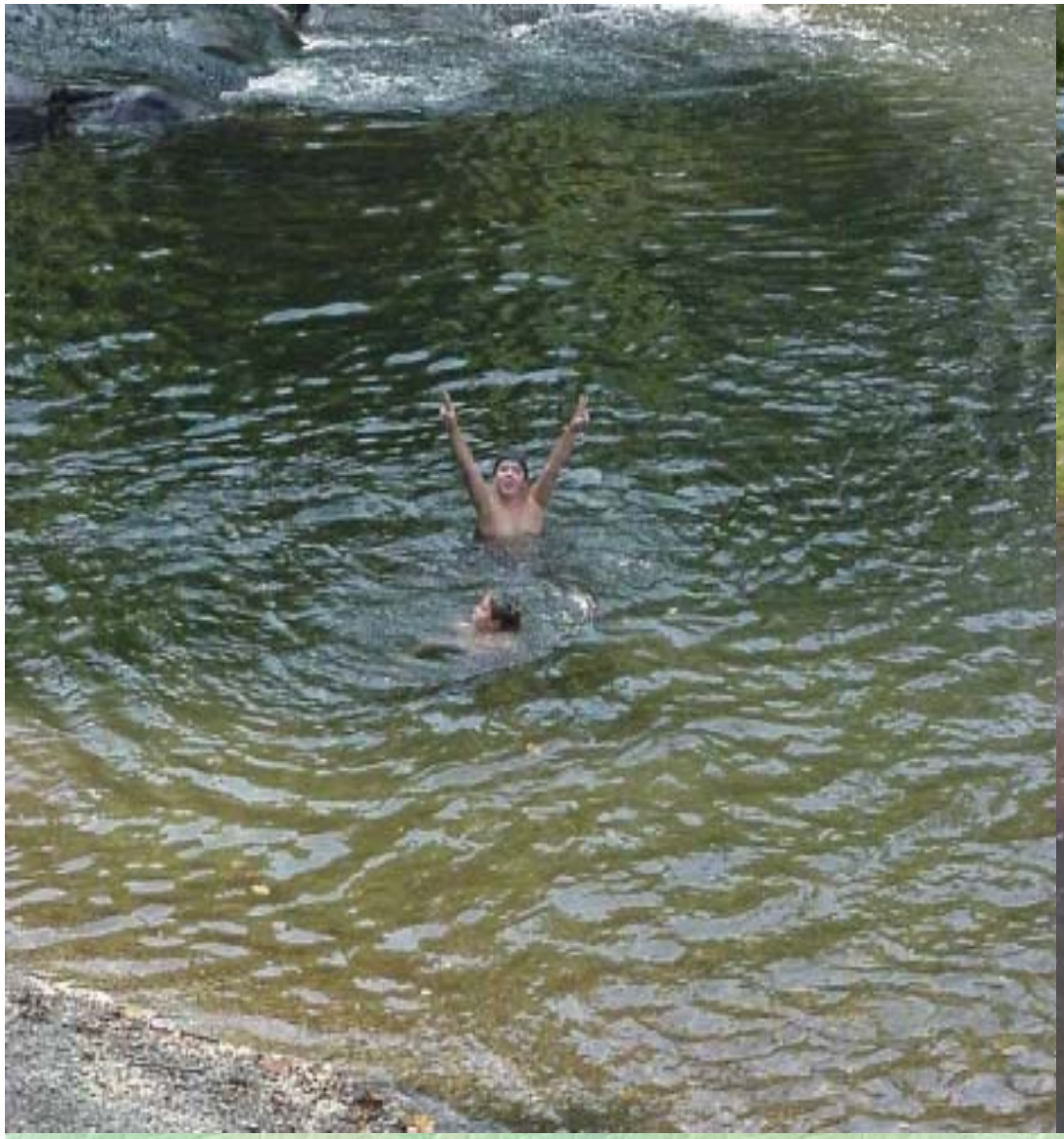
ORW - Outstanding Resource Waters

Sw – Swamp Waters

Tr – Trout Waters

- Example: New River - C NSW, SB NSW, SC NSW and SA HQW

Class C: Aquatic Life Protection & Secondary Recreation



Class B: Primary Recreation & Class C Uses

Photo By: Bob Williams

Class SA: Commercial Shellfish Harvesting and Primary Recreation

WS-I through WS-V: Water Supplies

What Are ‘Designated Uses’?

Based on NC Surface Water Classifications:

- protection and propagation of aquatic life
- recreation
- shellfish harvesting
- fish consumption
- water supply

Uses are defined in rules as:

- narrative and numerical standards

DWQ Data Collection

- Aquatic Benthic Macroinvertebrates
- Fish Community Assessments
- Ambient Sampling
- Fish Tissue Analyses
- Toxicity Tests
- Lakes Assessment

Use Support Ratings

- **Supporting** ⇨ **Criteria Not Exceeded**
- **Impaired** ⇨ **Criteria Exceeded**
- **Not Rated** ⇨ **Inconclusive Data**
- **No Data** ⇨ **No Assessment Made**

Use Support Categories

Aquatic Life - Applies to all waters

Recreation - Applies to all waters

Shellfish Harvesting - Applies to SA waters only

Fish Consumption - Applies to all waters

Water Supply - Applies to WS waters only

Aquatic Life

Assessed for All Waters -

C, SC, B, SB, SA, WSI-WS-V

Use Support Assessment based on:

- Biological Monitoring Data - Direct Measure of aquatic life
- Ambient Monitoring Data - Numerical Measure (criteria based on standards)

Aquatic Life

Ambient Monitoring Criteria based on Standards

Parameters Assessed:

DO, pH, Chlorophyll *a*, Turbidity

- Waters that exceed standard in greater than 10% of samples are Impaired.

Recreation

Assessed for All Waters -

C, SC, B, SB, SA, WSI-WSV

Parameter Assessed: Fecal Coliform Bacteria

- Ambient Monitoring Stations
- DWQ Special Studies
- DEH Recreational Monitoring Advisories (RECMON)

Interstate TMDL VA/NC efforts on Dan River for fecal coliform bacteria ***!***

Recreation

- Fecal coliform criteria exceeded when annual evaluation shows geomean >200 or 20% of samples >400 colonies/100 ml.
- Class B, SB and SA waters that exceed fecal coliform criteria are prioritized for resampling to assess the standard.
- Class C, SC and WS waters that exceed fecal coliform criteria receive lower priority for resamples and are Not Rated.

Recreation

Division of Environmental Health (DEH) – RECMON Program

- Criteria are exceeded when DEH closes a swimming area more than 61 days of the 5- year assessment period.

- Swimming areas closed more than 61 days are Impaired.

Shellfish Harvesting

Assessed for Class SA Waters –

Criteria based on DEH growing areas.

- Prohibited, Restricted and Conditional - SA waters are Impaired.
- Approved SA waters are Supporting.

Fish Consumption

Assessed for All Waters -

C, SC, B, SB, SA, WSI-WS-V

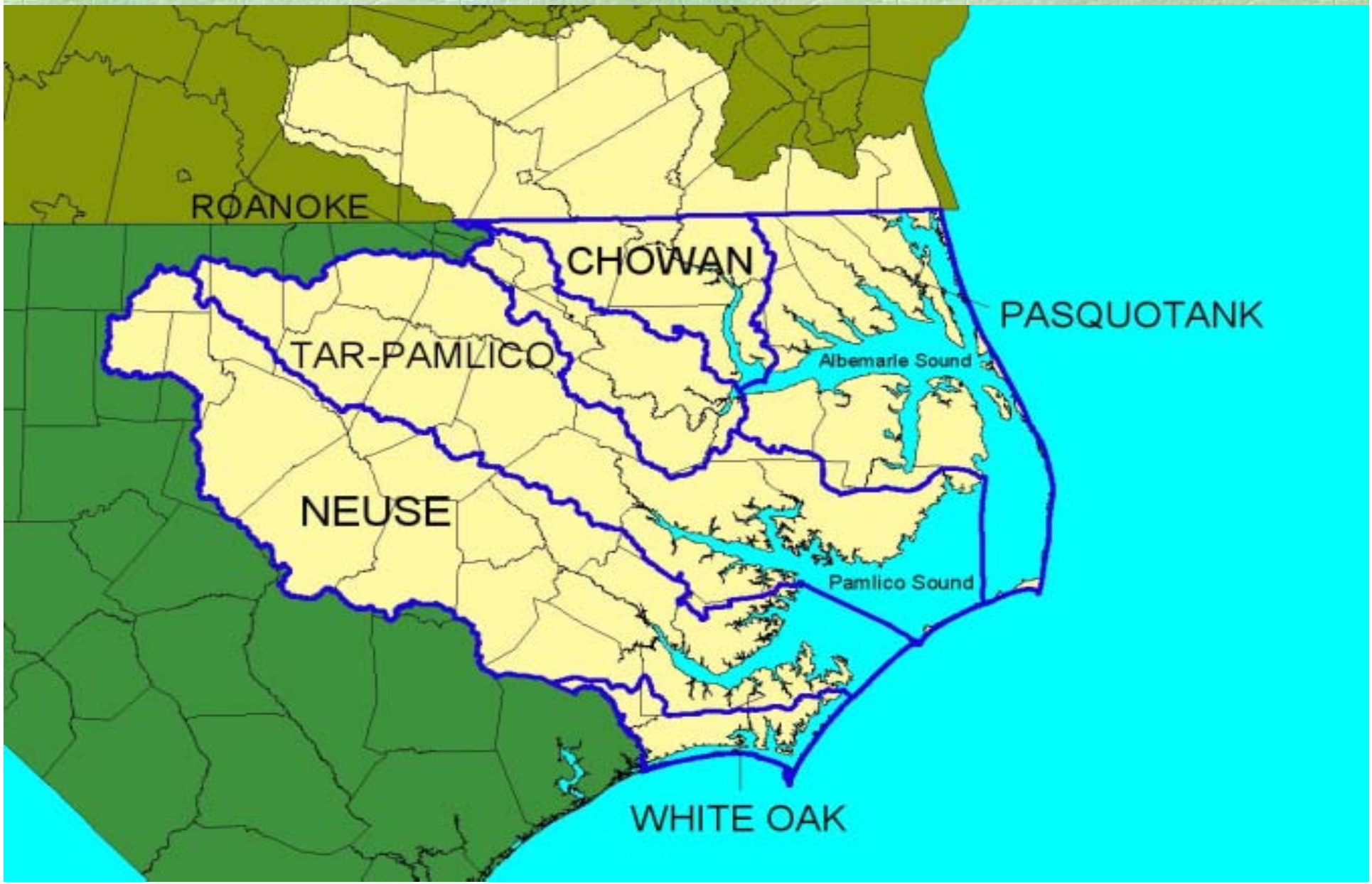
- Criteria based on DHHS fish consumption advice and specific advisories.
- Waters with specific advisories are Impaired.
- Waters in basins south and east of I-85 are Impaired based on regional advice for mercury.

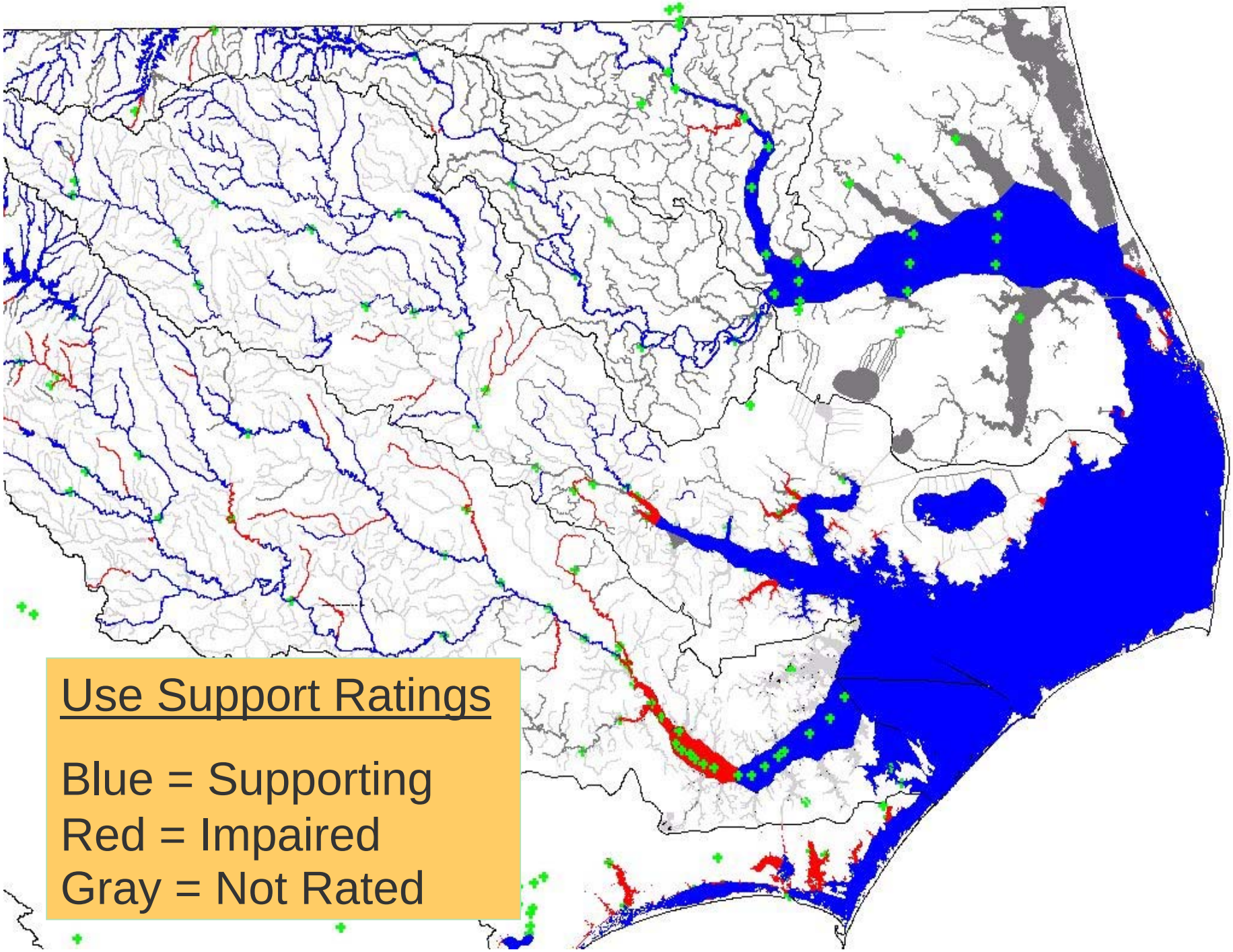
Water Supply

Assessed for WS Waters -

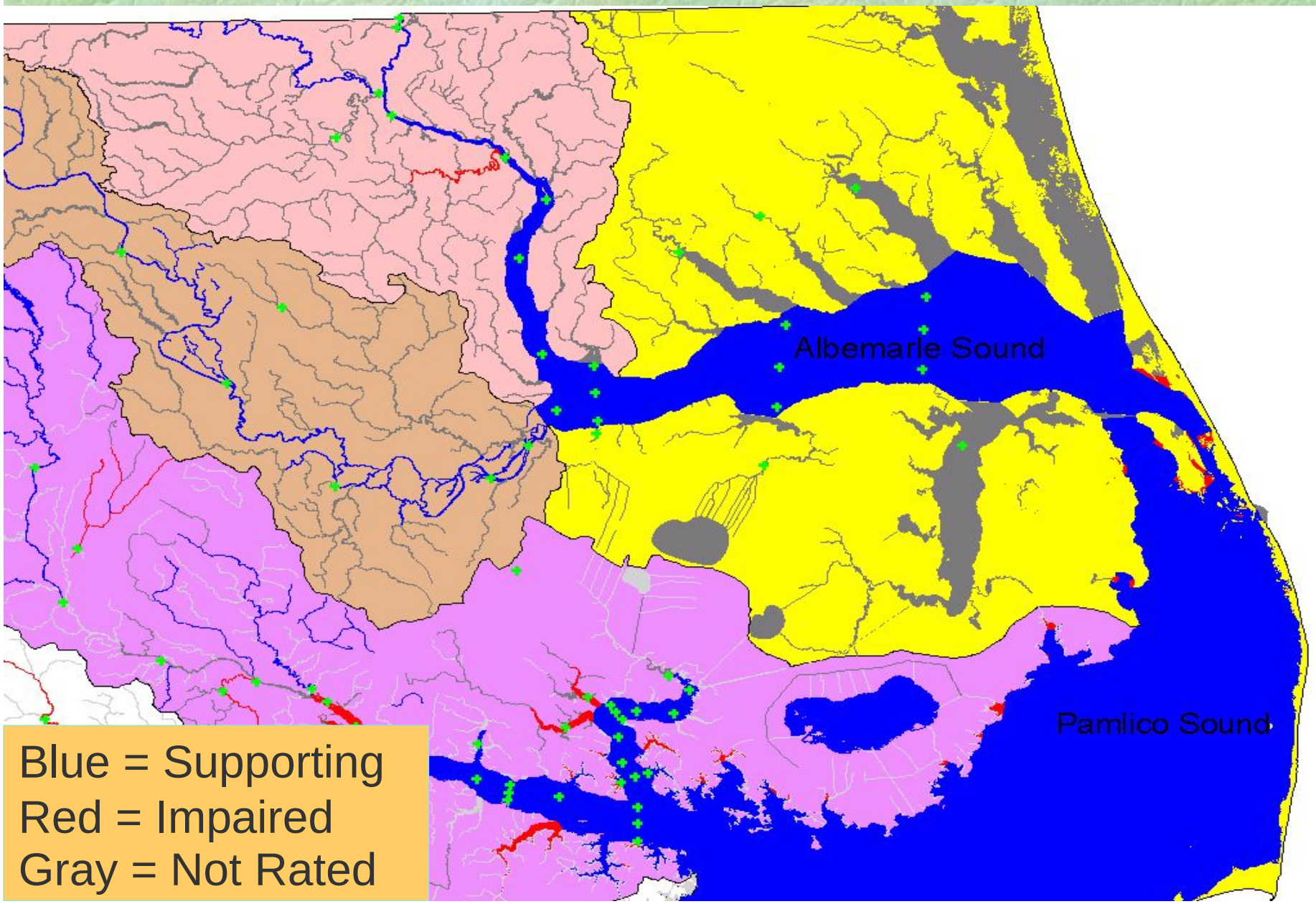
- Criteria based on the ability of water treatment plants to deliver potable water; not on standards for raw water.
- Regional water treatment consultants provide water quality related intake closure information.
- All WS waters are Supporting on an Evaluated basis.

NC River Basins in the APNEP



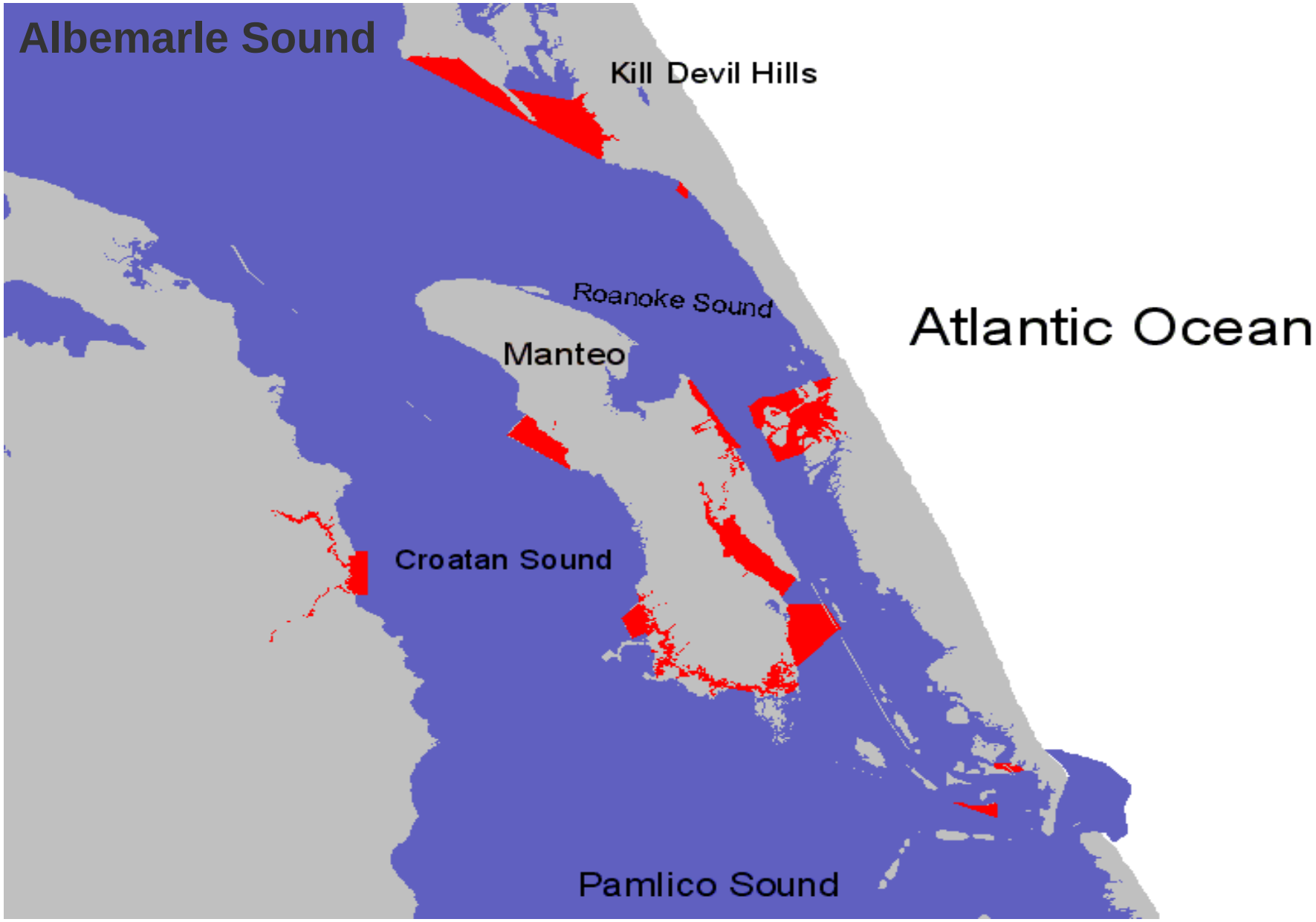

Use Support Ratings
Blue = Supporting
Red = Impaired
Gray = Not Rated

Use Support Ratings (Water Quality Ratings)



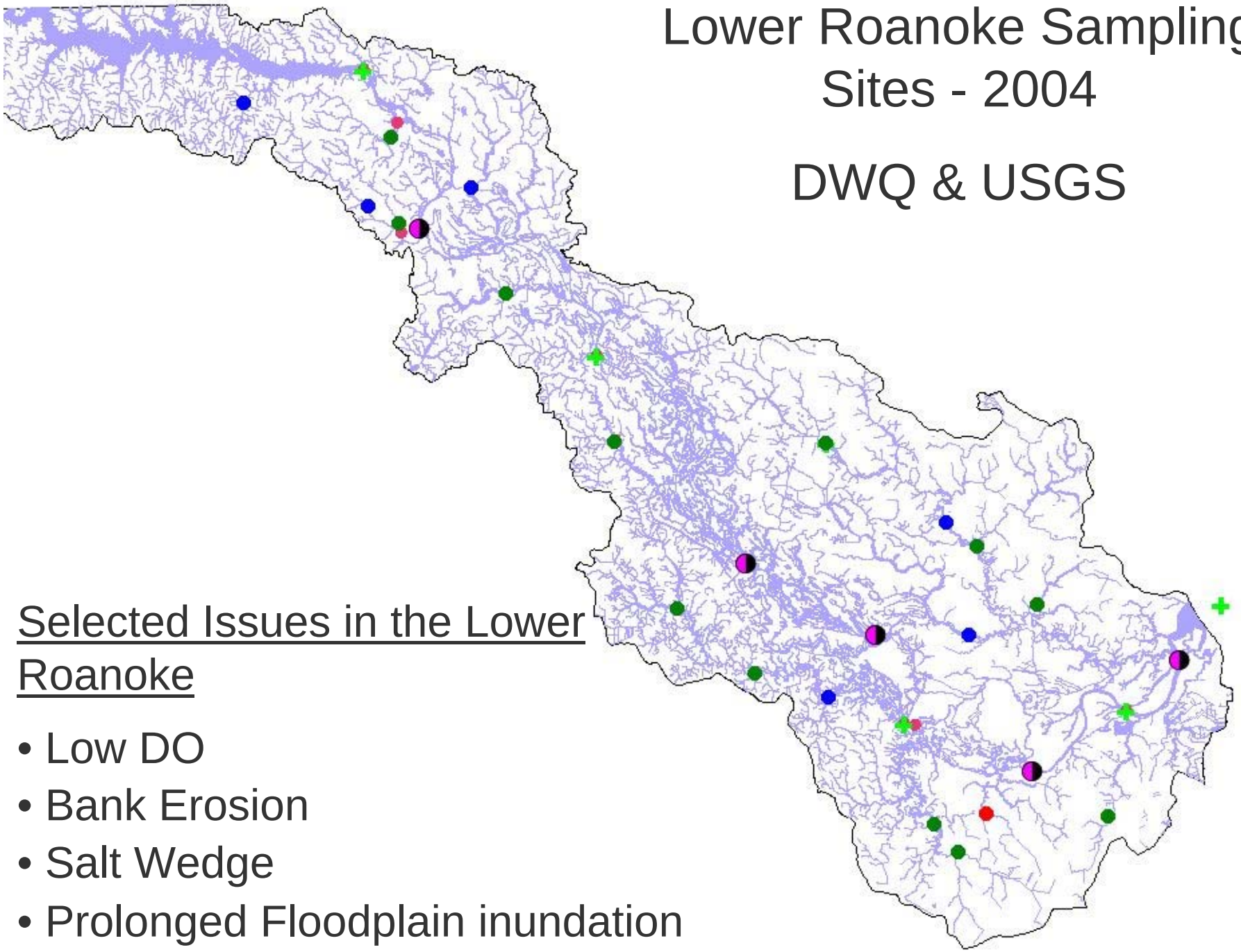
Blue = Supporting
Red = Impaired
Gray = Not Rated

Example: Impaired for Shellfish Harvesting (RED)



Lower Roanoke Sampling Sites - 2004

DWQ & USGS



Selected Issues in the Lower Roanoke

- Low DO
- Bank Erosion
- Salt Wedge
- Prolonged Floodplain inundation

Major Studies of the Lower Roanoke

- J.H. Kerr Section 216 – ACOE, VA & NC
- FERC Re-Licensing Requirements of Hydropower Projects
- Others – USGS, USFWS, WRC, Weyerhaeuser

Photo Credit: USCOE website

Basinwide Planning Program Website:
http://h2o.enr.state.nc.us/basinwide

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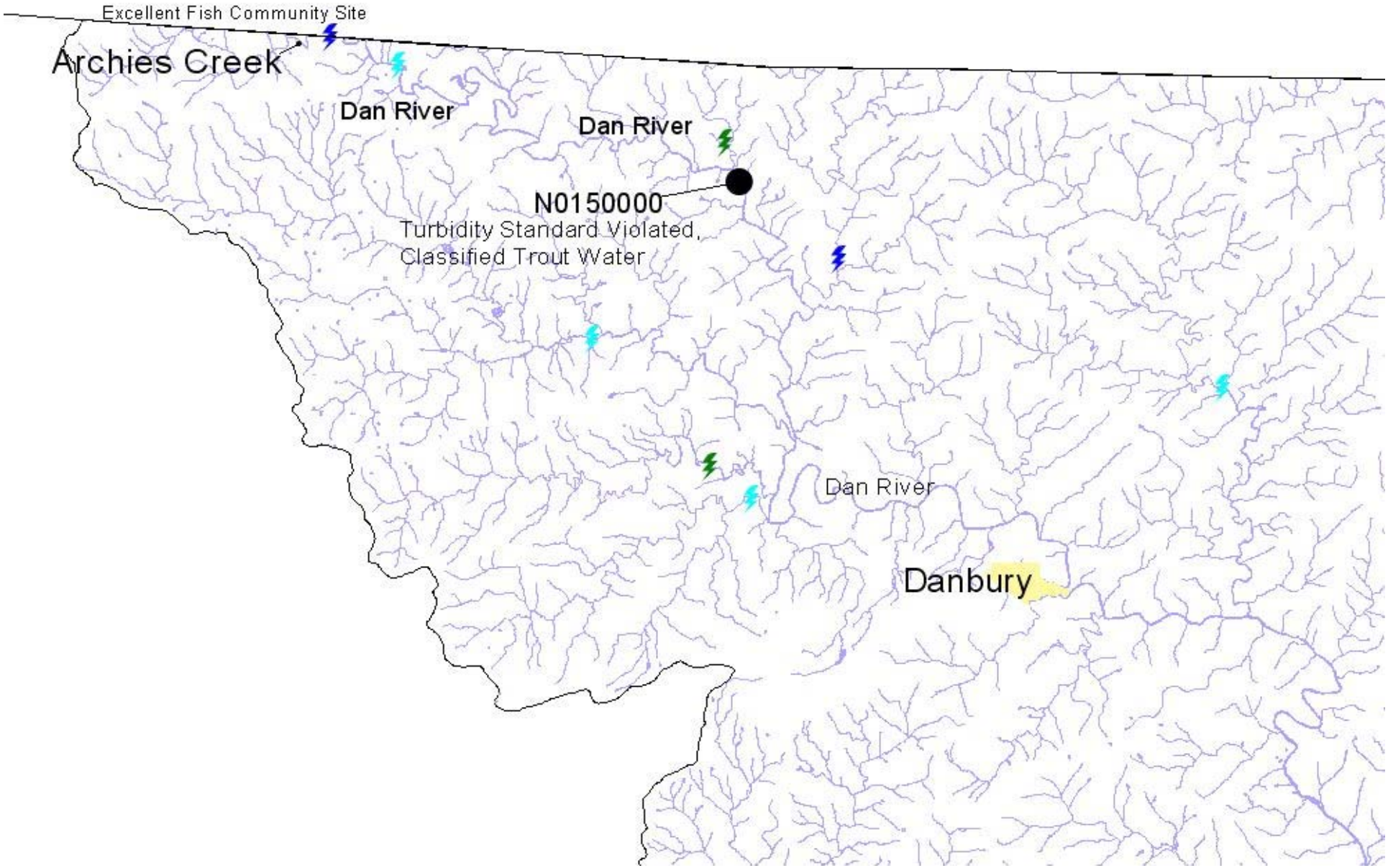
919-733-5083 x374

PATRICK


Excellent Fish Community Site
Archies Creek
Dan River
Dan River
N0150000
Turbidity Standard Violated,
Classified Trout Water
Dan River
Danbury


VIRGINIA
STOKES
ROCKINGHAM
PERSON
VANCE
WARREN
NORTHAMPTON
GRANVILLE
BERTIE
CASWELL
HALIFAX
MARTIN